O'Hara Property
I2

SAMPLING DATA

ROBERT H. ANDERSON & ASSOCIATES, INC.
FACSIMILE TRANSMITTAL COVER SHEET

TO: Jane Malkin
Ecology & Environment
(312) 663-9415
FAX (312) 663-0791

FROM: Jeff Ocock
Robert H. Anderson & Assoc.
220 West River Drive
St. Charles, IL 60174

Date: 2-11-94
Time: 2:00 p.m.

Project No. -

Total number of pages including cover sheet: 4

Description:
TEST ANALYSIS RESULTS - 3 samples from
Joe P. O'Hara Property, St. Charles, Illinois
following Preliminary Environmental Site Assessment

Comments:
I also have the following test results for these samples
if you need them : SOLVENT SCAN BY GC
PCB's IN SOLID
VOLATILE ORGANIC ANALYSIS
SEMI VOLATILE ORGANIC COMPOUNDS

IF THERE ARE ANY PROBLEMS WITH TRANSMISSION OUR FAX NUMBER IS
(708) 584-3047 AND OUR PHONE NUMBER IS (708) 584-3530

ROBERT H. ANDERSON & ASSOCIATES, INC.
FACSIMILE TRANSMITTAL COVER SHEET

TO: Jane Malkin
Ecology & Environment

FROM: Jeff Ocock
Robert H. Anderson & Assoc.
220 West River Drive
St. Charles, IL 60174

Date: 2-14-94
Time: 8:50 a.m.

Project No. _____

Total number of pages including cover sheet: 5

Description:
TEST ANALYSIS RESULTS - Joe P. O'Hara Property, St. Charles IL

Comments:
- PCB's in Solids - (1pg)
- Volatile Organic analysis (1st pg.)
- Semi Volatile Organic analysis (1st 2 pages)

IF THERE ARE ANY PROBLEMS WITH TRANSMISSION OUR FAX NUMBER IS (708) 584-3047 AND OUR PHONE NUMBER IS (708) 584-3530

E & E Job Number 2T201

Telephone Code Number

Site Name O'Hara Property
Municipal LF

City/State St. Charles, IL

TDD T05-9311-001

PAN E/L 0807 SQA

SSID

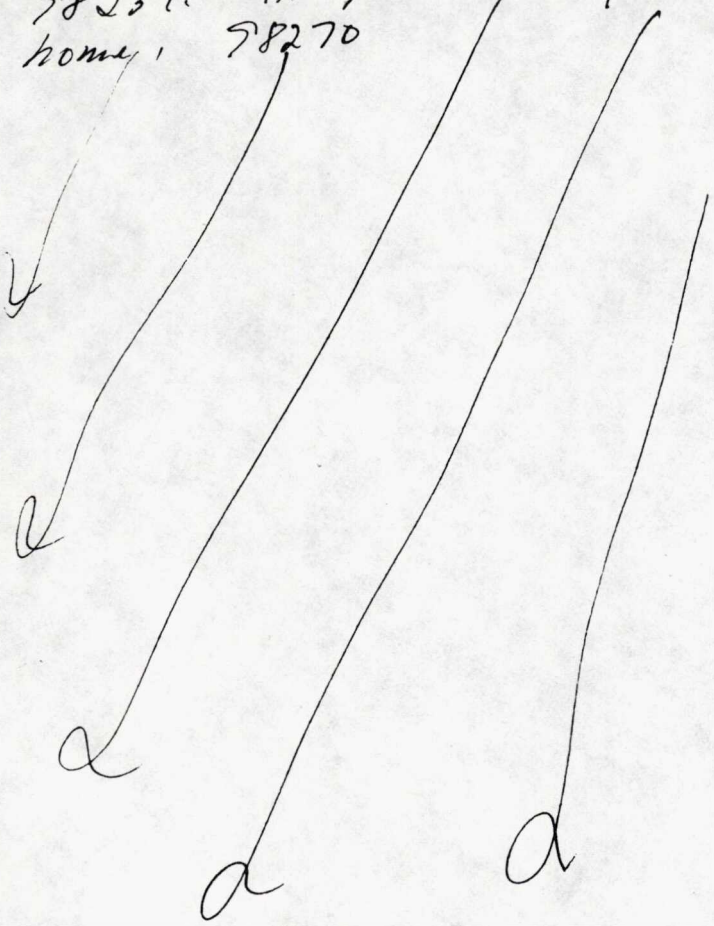
Start/Finish Date 11/1 , 11/2

Book 1 of 1

& E Emergency Response Center: (716) 684-8940
& E Corporate Center: (716) 684-8060
EDTOX Hotline: (501) 370-8263
& E Safety Director non responsive

11/1/93

1500 Prepared Site Safety plan; Mobolized. Took EPA Vehicle (EPA 710) home. Initial mileage 98239. Mileage reaching home, 98270



Jonathan
11/1/93

11/2/93

0700 Started for Site from home. Initial mileage 98270

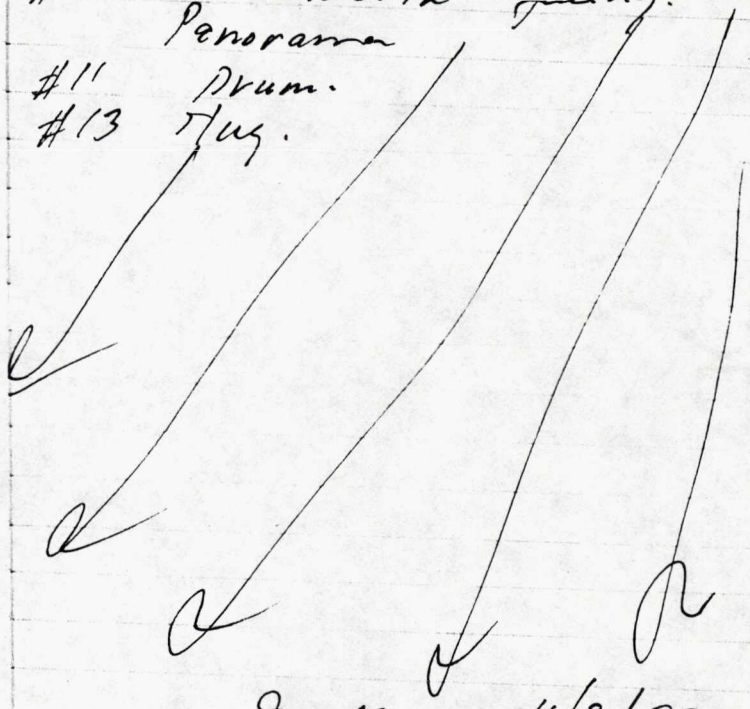
0901 Reached Site. OSC Cindy Nolan arrived 9:10. Lawyer of J. O'Hara, Constan Konstan arrived 9:10. All 3 went to Landfill Site for walk through. Several drums, that were damaged were found coming out of ground. Contents looked grayish in color, spongy-like rock material. They were hard. Materials from drum appeared to have spilled out from container & hardened over years. Broken glass & Tin cans were everywhere. Konstan told a brief history. During Civil war, it was used as burying

for soldiers. In 1920 a quarry operation found coffins. These coffins were transferred to a cemetery - After 1930, the site was used as municipal dump. In 1966, J. O'Hara purchased the property. O'Hara wanted to sell property to City of St. Charles. A property investigation took place prior to closing, and Robert Anderson an environmental consulting agency identified hazardous materials in chemical analysis. IEPA was notified. 1030 Representative from St. Charles, Cliff White arrived 4 Rep. from IEPA lead by Pete Sorenson arrived. They handled site assessment

Jonathan 11/2/93

Pictures

#1 Drum
#2 facing N. Houses close to Area
#3 Drum w/ dry materials inside
#4 tire
#5 Clinker?
#6 Red Conglomerate
#7-10 North facing. Panorama
#11 Drum.
#13 Jug.



Jonathan 11/2/93

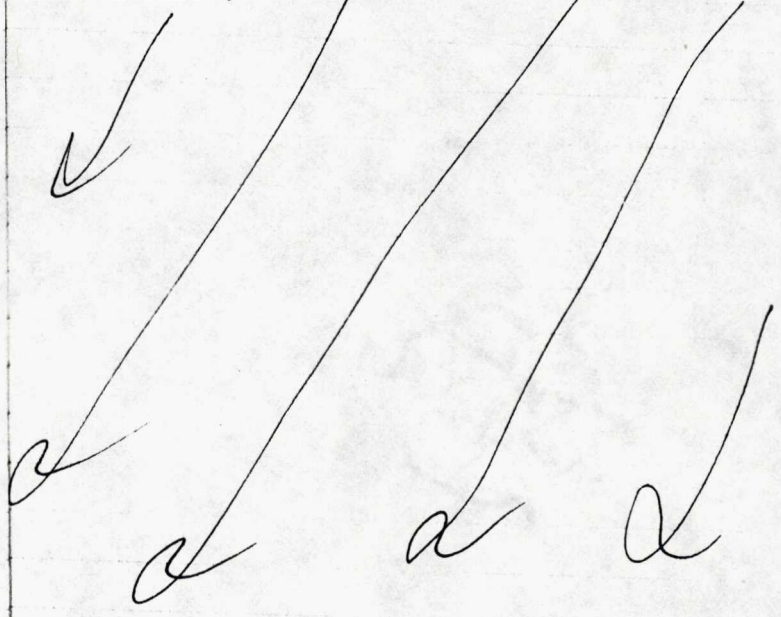
to Cindy Nolan. Preliminary chemical analysis revealed hits in TCLP cds, PCB (25 ppm) VOAs & Semi-VOAs- Reportedly (accdg. to Kmetart) owner did not ↑ use property. City used ↑ to flood area for use as skating rink. Another lawyer of Ottavo was present - Ralph Lowe. IEPA planned to take 3 drum samples, 1 soil sample, 1 background. Analysis will be for TAL. Also 1 sediment sample. following day. they plan to collect ↑ residential wells. LANDFILL is facing Longum park. Since IEPA will use CLP lab & results will not be known

Jmaske 11/2/89

until after a month, OSC Nolan requested TAT to just write a letter report and if accdg. to results, EPA will be involved, another TDD may be opened.

1430 OSC & TAT left site

1630 TAT reached home mileage 58372.



Jmaske 11/2/89

ecology and environment, inc.

111 W. JACKSON BLVD., SUITE 1200, CHICAGO, ILLINOIS 60604

INTERNATIONAL SPECIALISTS In the ENVIRONMENT

PHONE: (312) 663-9415

TELECOPIER: (312) 663-1090

TELECOPIER TRANSMISSION FORM

DATE: 2/14/94 TIME: 9:10 TOTAL NO. OF PAGES: 8
(Including this form)

TO: Robert Williams.

COMPANY: EPA

TELECOPIER PHONE NO.: 886-6066

FROM: Jane Malkin

SPECIAL INSTRUCTIONS: Attached are original document fr. Lab- Note units. Except for TCLP metals that are reported in mg/l, the rest should either be in ug/kg or mg/kg. If you have any further questions, give me a call.

For Operator's Use Only

JOB CHARGE: _____

SENT BY: _____

ENVIRONMETRICS
2345 Millpark Drive
Maryland Heights, MO 63043
(314) 427-0550

ROBERT H. ANDERSON & ASSOCIATES
220 WEST RIVER DRIVE
ST. CHARLES, IL 60174

ATTN: DENNIS NOVAK

INVOICE # 11973
PO # 8041

ANALYSIS RESULTS

SAMPLE ID: CENTER E ON SLOPE
LAB ID: 9102753

TEST PERFORMED	METHOD OF ANALYSIS	RESULTS	
TCLP EXTRACTION	SW-846 1311		
RCRA METALS ANALYSIS	SW-846 6010	EXTRACTION	
ARSENIC		<0.5	mg/l
BARIUM		3.35	
CADMIUM		0.43	
CHROMIUM		0.05	
LEAD		<0.2	
SELENIUM		<0.2	
SILVER		<0.1	
MERCURY	EPA 245.1	<0.0005	
IGNITABILITY (OPEN CUP)	ASTM D-92	>200	(F)
CORROSIVITY (pH) 10%	SW-846 9045	6.7	
TOTAL CYANIDE	SW-846 9010	0.867	mg/kg
REACTIVE SULFIDES	SW-846 9030	<0.2	mg/kg
PAINT FILTER	SW-846 9095	NO FREE LIQUID (PASSED)	

FEBRUARY 28, 1991

WAYNE L. COOPER
LABORATORY DIRECTOR

ENVIRONMETRICS
2345 Millpark Drive
Maryland Heights, MO 63043
(314) 427-0550

ROBERT H. ANDERSON & ASSOCIATES
220 WEST RIVER DRIVE
ST. CHARLES, IL 60174

ATTN: DENNIS NOVAK

INVOICE # 11973
PO # 8041

ANALYSIS RESULTS

SAMPLE ID: SE TOP OF BANK
LAB ID: 9102754

TEST PERFORMED	METHOD OF ANALYSIS	RESULTS	
TCLP EXTRACTION	SW-846 1311		
RCRA METALS ANALYSIS	SW-846 6010	EXTRACTION	
ARSENIC		<0.5	mg/l
BARIUM		3.38	
CADMIUM		0.10	
CHROMIUM		0.12	
LEAD		<0.2	
SELENIUM		<0.2	
SILVER		<0.1	
MERCURY	EPA 245.1	<0.0005	
IGNITABILITY (OPEN CUP)	ASTM D-92	>200	(F)
CORROSIVITY (pH) 10%	SW-846 9045	5.4	
TOTAL CYANIDE	SW-846 9010	<0.2	mg/kg
REACTIVE SULFIDES	SW-846 9030	<0.2	mg/kg
PAINT FILTER	SW-846 9095	NO FREE LIQUID (PASSED)	

FEBRUARY 28, 1991

WAYNE L. COOPER
LABORATORY DIRECTOR

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ROBERT H. ANDERSON & ASSOCIATES
220 WEST RIVER DRIVE
ST. CHARLES, IL 60174

ATTN: DENNIS NOVAK

INVOICE # 11973
PO # 8041

ANALYSIS RESULTS

SAMPLE ID: NE ON SLOPE
LAB ID: 9102752

TEST PERFORMED	METHOD OF ANALYSIS	RESULTS	
TCLP EXTRACTION	SW-846 1311		
RCRA METALS ANALYSIS	SW-846 6010	EXTRACTION	
ARSENIC		<0.5	mg/l
BARIUM		1.88	
CADMIUM		1.79	
CHROMIUM		<0.05	
LEAD		2.28	
SELENIUM		<0.2	
SILVER		<0.1	
MERCURY	EPA 245.1	<0.0005	
IGNITABILITY (OPEN CUP)	ASTM D-92	>200	(F)
CORROSIVITY (pH) 10%	SW-846 9045	4.9	
TOTAL CYANIDE	SW-846 9010	2.693	mg/kg
REACTIVE SULFIDES	SW-846 9030	<0.2	mg/kg
PAINT FILTER	SW-846 9095	NO FREE LIQUID (PASSED)	

FEBRUARY 28, 1991

WAYNE L. COOPER
LABORATORY DIRECTOR

ENVIRONMETRICS

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220 WEST RIVER DRIVE
ST. CHARLES, IL 60174

ATTN: DENNIS NOVAK

INVOICE # 11973
PO # 8041

VOLATILE ORGANIC ANALYSIS
METHOD SW-846 8240

SAMPLE ID: METHOD BLANK
LAB ID: VBLK057B

CAS NUMBER		DETECTION LIMIT	RESULTS
74-87-3	Chloromethane	10 µg/kg	ND µg/kg
74-83-9	Bromomethane	10	ND
75-01-4	Vinyl Chloride	10	ND
75-00-3	Chloroethane	10	ND
75-09-2	Methylene Chloride	20	ND
67-64-1	Acetone	20	ND
107-02-8	Acrolein	40	ND
75-15-0	Carbon Disulfide	5	ND
107-13-1	Acrylonitrile	40	ND
75-35-4	1,1-Dichloroethene	5	ND
75-34-3	1,1-Dichloroethane	5	ND
	1,2-Dichloroethene (Total)	5	ND
67-66-3	Chloroform	20	ND
107-06-2	1,2-Dichloroethane	5	ND
78-93-3	2-Butanone	15	ND
71-55-6	1,1,1-Trichloroethane	5	ND
56-23-5	Carbon Tetrachloride	5	ND
108-05-4	Vinyl Acetate	50	ND
75-27-4	Bromodichloromethane	5	ND
78-87-5	1,2-Dichloropropane	5	ND
10061-01-5	cis-1,3-Dichloropropene	5	ND
79-01-6	Trichloroethene	5	ND
124-48-1	Dibromochloromethane	5	ND
79-00-5	1,1,2-Trichloroethane	5	ND
71-43-2	Benzene	5	ND
10061-02-6	trans-1,3-Dichloropropene	5	ND
75-25-2	Bromoform	5	ND
108-10-1	4-Methyl-2-Pentanone	10	ND
591-78-6	2-Hexanone	10	ND
127-18-4	Tetrachloroethene	5	ND
79-34-5	1,1,2,2-Tetrachloroethane	5	ND
108-88-3	Toluene	5	ND
108-90-7	Chlorobenzene	5	ND
100-41-4	Ethylbenzene	5	ND
100-42-5	Styrene	5	ND
	Xylene (Total)	5	ND

ND = BELOW DETECTION LIMIT

FEBRUARY 28, 1991

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ST. CHARLES, IL 60174

ATTN: DENNIS NOVAK

INVOICE # 11973
PO # 8041

ANALYSIS REPORT

PCBs IN SOLID ✓

SW-846 8080

LAB NO.	SAMPLE NO.	IDENTIFICATION	TOTAL ppm	TYPE
9102752		NE ON SLOPE	19	1260
9102753		CENTER E ON SLOPE	<2	--
9102754		SE TOP OF BANK	25	1260

FEBRUARY 28, 1991

WAYNE L. COOPER
LABORATORY DIRECTOR

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(314) 427-0550

ROBERT H. ANDERSON & ASSOCIATES
220 WEST RIVER DRIVE
ST. CHARLES, IL 60174

ATTN: DENNIS NOVAK

INVOICE # 11973
PO # 8041

SEMIVOLATILE ORGANIC COMPOUNDS
METHOD SW-846 8270
PAGE ONE ✓

SAMPLE ID: METHOD BLANK
LAB ID: SBLK1040

CAS NUMBER		DETECTION LIMIT	RESULTS
108-95-2	Phenol	330 µg/kg	ND µg/kg
111-44-4	bis(2-chloroethyl)Ether	330	ND
95-57-8	2-Chlorophenol	330	ND
541-73-1	1,3-Dichlorobenzene	330	ND
106-46-7	1,4-Dichlorobenzene	330	ND
100-51-6	Benzyl Alcohol	330	ND
95-50-1	1,2-Dichlorobenzene	330	ND
95-48-7	2-Methylphenol	330	ND
39638-32-9	bis(2-chloroisopropyl)Ether	330	ND
106-44-5	4-Methylphenol	330	ND
621-64-7	N-Nitroso-di-n-propylamine	330	ND
67-72-1	Hexachloroethane	330	ND
98-95-3	Nitrobenzene	330	ND
78-59-1	Isophorone	330	ND
88-75-5	2-Nitrophenol	330	ND
105-67-9	2,4-Dimethylphenol	330	ND
65-85-0	Benzoic Acid	1,700	ND
111-91-1	bis(2-Chloroethoxy)methane	330	ND
120-83-2	2,4-Dichlorophenol	330	ND
120-82-1	1,2,4-Trichlorobenzene	330	ND
91-20-3	Naphthalene	330	ND
106-47-8	4-Chloroaniline	330	ND
87-68-3	Hexachlorobutadiene	330	ND
59-50-7	4-Chloro-3-methylphenol	330	ND
91-57-6	2-Methylnaphthalene	330	ND
77-47-4	Hexachlorocyclopentadiene	330	ND
88-06-2	2,4,6-Trichlorophenol	330	ND
95-95-4	2,4,5-Trichlorophenol	1,700	ND
91-58-7	2-Chloronaphthalene	330	ND
88-74-4	2-Nitroaniline	330	ND
131-11-3	Dimethylphthalate	330	ND
208-96-8	Acenaphthylene	330	ND
606-20-2	2,6-Dinitrotoluene	330	ND
99-09-2	3-Nitroaniline	1,700	ND
83-32-9	Acenaphthene	330	ND
51-28-5	2,4-Dinitrophenol	1,700	ND

ENVIRONMETRICS

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Maryland Heights, MO 63043
(314) 427-0550

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220 WEST RIVER DRIVE
ST. CHARLES, IL 60174

ATTN: DENNIS NOVAK

INVOICE # 11973
PO # 8041

SEMIVOLATILE ORGANIC COMPOUNDS
METHOD SW-846 8270
PAGE TWO

SAMPLE ID: METHOD BLANK
LAB ID: SBLK1040

CAS NUMBER		DETECTION LIMIT	RESULTS
100-02-7	4-Nitrophenol	1,700 µg/kg	ND µg/kg
132-64-9	Dibenzofuran	330	ND
121-14-2	2,4-Dinitrotoluene	330	ND
84-66-2	Diethylphthalate	330	ND
7005-72-3	4-Chlorophenol phenyl ether	330	ND
86-73-7	Fluorene	330	ND
100-01-6	4-Nitroaniline	1,700	ND
534-52-1	4,6-Dinitro-2-methylphenol	1,700	ND
86-30-6	N-Nitrosodiphenylamine	330	ND
101-55-3	4-Bromophenyl phenyl ether	330	ND
118-74-1	Hexachlorobenzene	330	ND
87-86-5	Pentachlorophenol	330	ND
85-01-8	Phenanthrene	330	ND
120-12-7	Anthracene	330	ND
84-74-2	Di-n-butylphthalate	330	ND
206-44-0	Fluoranthene	330	ND
129-00-0	Pyrene	330	ND
85-68-7	Butylbenzylphthalate	330	ND
91-94-1	3,3'-Dichlorobenzidine	670	ND
56-55-3	Benzo(a)anthracene	330	ND
218-01-9	Chrysene	330	ND
117-81-7	bis(2-Ethylhexyl)phthalate	330	560
117-84-0	Di-n-octylphthalate	330	ND
205-99-2	Benzo(b)fluoranthene	330	ND
207-08-9	Benzo(k)fluoranthene	330	ND
50-32-8	Benzo(a)pyrene	330	ND
193-39-5	Indeno(1,2,3-cd)pyrene	330	ND
53-70-3	Dibenzo(a,h)anthracene	330	ND
191-24-2	Benzo(g,h,i)perylene	330	ND

ND = BELOW DETECTION LIMIT

FEBRUARY 28, 1991

DATE EXTRACTED : 02/26/91
AMOUNT EXTRACTED : 30 g
DATE INJECTED : 02/27/91
AMOUNT INJECTED : 1 µl

WAYNE L. COOPER
LABORATORY DIRECTOR

RHA&A

March 4, 1991

Mr Mark Koenen, P.E..
Director of Public Works
City of St. Charles
Two East Main Street
St. Charles, Illinois 60174-1984

SUBJECT: Supplementary Report
Preliminary Environmental Site Assessment
Joe P. O'Hara Property
RHA&A Project No. 100-500-E

Dear Mr. Koenen:

In accordance with your verbal authorization of February 18, and our proposal of February 25, 1991; we are pleased to submit our supplementary report of site sampling and analysis for the referenced property.

Sample Collection
Three samples of dumped material were taken, as summarized in Figure 1. The photo numbers refer to the photographs presented with our report of February 13, 1991, and indicated in Figure 3.

Sample No.	Location	Photo No.
1.	Northeast portion of site, on fill slope	11
2.	Center east portion of site, on fill slope	13
3.	Southeast portion of site, on top of slope	6

Figure 1. Sampling Plan

Sample 1 was a grey, friable, stoney material, spilling from a rusted 55 gallon drum. Sample 2 was a grey, friable material spilled from one or a number of rusted 55 gallon drums. It was stiffer and more cohesive than sample 1. Both samples appeared to have been semi solid materials which have lost their liquid component. Sample 3 was [illegible]

ROBERT H. ANDERSON & ASSOCIATES, INC. • 220 WEST RIVER DR. • ST. CHARLES, IL 60174 • 708-584-3530 • FAX 708-584-3047

stiff, semi solid material, grey on the surface with a dark interior. It smelled distinctly of solvent. Sample 3 appeared to be a paint spill, and was not associated with a specific drum or drums. All three samples were stiff enough that a hatchet was required to collect them.

Approximately three litres of each sample was taken on February 22 by Dennis Novak and Elizabeth Murphy.

Sample Analysis

The samples were shipped, over ice, to Environmetrics environmental laboratory, in Maryland Heights, Missouri. The following tests were requested:

Paint filter
Open cup flash point
pH
Polychlorinated Biphenyls (PCB)
Total cyanide
Reactive sulfides
F code solvent scan
Volatile organic compounds (VOA)
Bases, neutrals and acids (BNA)
TCLP metals.

This sampling profile matches that required by Waste Management Corporation for disposal at the Settler's Hills landfill. A summary of the analytical results is presented as Figure 2. These results were transmitted verbally by Environmetrics. A written report from Environmetrics is pending.

Paint Filter

The paint filter test measures the solidity of the material. A passing test implies the absence of liquids which will drain through a paint filter. All samples passed.

Open Cup Flash Point

This test measures the ignitability of the sample. A flash point greater than 200° F is considered non ignitable for disposal purposes. All three samples passed.

pH

pH is a measure of corrosivity and reactivity. A pH of is neutral, low pH is acid, and high pH is basic. Pure water has a pH of 7. All three samples are somewhat basic, but the values are not dramatic.

Polychlorinated Biphenyls (PCB)

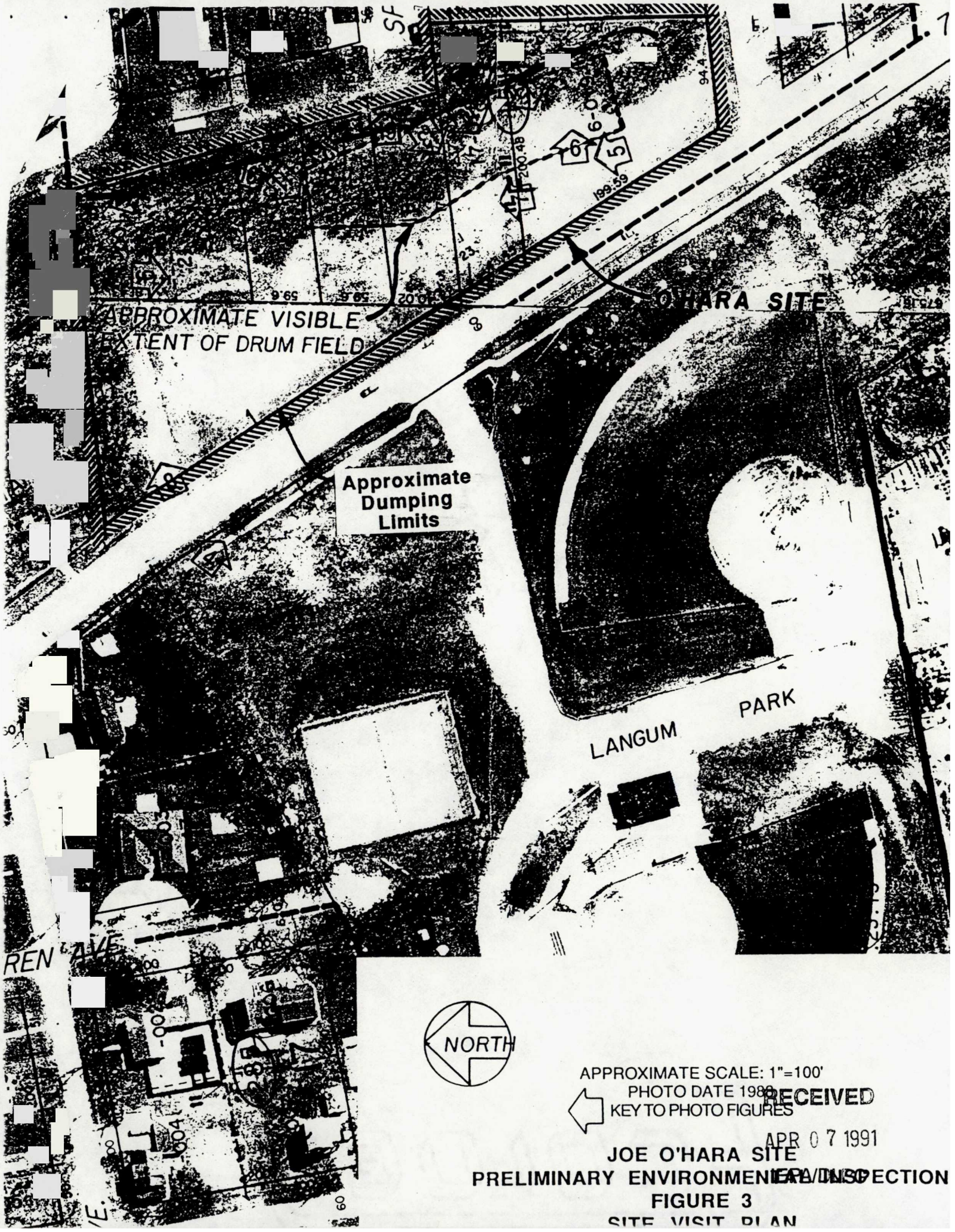
PCBs are extremely persistent environmental toxins. The EPA has set three ranges of PCB contamination:

• Less than 5 mg/l	Not contaminated
• 5 - 50 mg/l	Contaminated with PCB
• Greater than 50 mg/l	PCB material.

Samples 1 and 3 are contaminated with PCB. Sample 2 tested as uncontaminated.

	Units	Sample No.		
		1	2	3
Sample Location		SE on slope	Center E on slope	SE top of slope
Paint filter test for liquids		Passed	Passed	Passed
Open cup flash point		>200F	>200F	>200F
pH		4.9	6.7	5.4
Polychlorinated Biphenyls (PCB)	mg/l	19	<2	25
Total cyanide	mg/l	2.693	0.867	<0.2
Reactive Sulfide	mg/l	<0.2	<0.2	<0.2
Solvent Scan				
Methanol		Not Detected	Not Detected	Not Detected
Ethyl Ether		Not Detected	Not Detected	Not Detected
Iso Butanol		Not Detected	Not Detected	Not Detected
Iso Butanol		Not Detected	Not Detected	Not Detected
Ethyl Acetate		Not Detected	Not Detected	Not Detected
Butyl Alcohol		Not Detected	Not Detected	Not Detected
Cyclo Hexanone		Not Detected	Not Detected	Not Detected
Volatile Organic Compounds (VOC) micrograms/liter				
111 Trichloroethane	µg/l	9.7	12	
Toluene	µg/l	8.2	11	140
Ethyl Benzene	µg/l	Not Detected	97	3,800
Xylene	µg/l	Not Detected	361	24,300
2 Butanone	µg/l	Not Detected	Not Detected	32,000
Vinl Acetate	µg/l	Not Detected	Not Detected	53,000
Trichloroethelene	µg/l	Not Detected	Not Detected	3,000
Bases, Neutrals, Acids (BNA)				
Aprox detection limits	µg/l	38,000	42,000	8,000
Napthalene	µg/l	Not Detected	Not Detected	9,300
Di-N-Butylphtalate	µg/l	Not Detected	Not Detected	28,000
TCLP Metals				
Arsenic	mg/l	<0.5	<0.5	<0.5
Barium	mg/l	1.88	3.35	3.38
Cadmium	mg/l	1.79	0.43	0.10
Chromium	mg/l	<0.05	0.05	0.12
Lead	mg/l	2.28	<0.2	<0.2
Mercury	mg/l	<0.0005	<0.0005	<0.0005
Selinium	mg/l	<0.2	<0.2	<0.2
Silver	mg/l	<0.1	<0.1	<0.1

Figure 2. Summary of Analyses



APPROXIMATE SCALE: 1"=100'
PHOTO DATE 1988
KEY TO PHOTO FIGURES

JOE O'HARA SITE
PRELIMINARY ENVIRONMENTAL INSPECTION
FIGURE 3
SITE VISIT PLAN

Total Cyanide
Cyanide is a highly toxic environmental contaminant. Samples 1 and 2 are slightly contaminated with cyanide.

Reactive Sulfide
Reactive sulfide is a measure of corrosivity. No samples had detectable levels of sulfide.

Solvent Scan
No listed solvents were detected.

Volatile Organic Compounds (VOC)
All samples showed VOC contamination.

Sample 1 was contaminated with small concentrations of 111 Trichloroethane and Toluene. This is indicative of industrial origin of the sample.

Sample 2 contained Ethyl Benzene and Xylene, in addition. This may indicate contamination with gasoline.

Sample 3 contained high concentrations of Ethyl Benzene, 2 Butanone (MEK), Vinyl Acetate, and Trichloroethelene. This is consistent with the suspicion that this was a paint spill.

Bases, Neutrals, and Acids (BNA)
BNAs are a "catch all" category, which includes many contaminants. The solid nature of the samples required extensive sample preparation, which greatly reduced the sensitivity of the tests. The minimum detection limits varied with the compound, but ranged around 30,000 µg/l (micrograms per litre, or parts per billion) for sample 1; 42,000 µg/l for sample 2; and 8,000 µg/l for sample 3.

No BNA compounds were detected in samples 1 and 2.

Sample 3 contained high concentrations of Napthalene and Di-N-Butylphtalate.

TCLP metals
Eight metals, specified by the RCRA regulations are extracted using the Toxic Component Leaching Procedure.

All samples tested positive for Arsenic and Barium.

Samples 2 and 3 tested positive for Chromium.

Sample 1 tested positive for lead.

General Guidelines Only

DISPOSAL GUIDELINES FOR IL, IN, KS, MO MANAGEMENT FACILITIES

PARAMETER	LIMIT
Flash Point	≥ 140°F
pH	> 2.0 and < 12.5
% Acidity	
a) Inorganic Acids	0.5%
b) Organic Acids (3 carbons or less: formic, acetic, propionic and hydroxyacetic)	4.0 % (8% CID II)
c) Organic Acids (4 carbons or more)	No Limit
Alkalinity	
a) NaOH, KOH, CaO, NH_4OH and most lower molecular weight organic amines	4.0%
b) $Ca(OH)_2$, Na_2Co_3, $NaHCO_3$, $CaCO_3$ & Sodium Meta-Silicate Na_2OH_2	No Limit
Free Cyanides	50 ppm (100 ppm CID II)
Dissolved Sulfides	50 ppm (100 ppm CID II)
Total Phenolics	1.0%
Organics Solvents	10.0%
Chlorinated Solvents	< 1.0%
PCB's	< 50 ppm
Leachable Heavy Metals	
a) Silver - Ag	< 5 ppm
b) Arsenic - AS	< 5 ppm
c) Barium - Ba	< 100 ppm
d) Cadmium - Cd	< 1 ppm
e) Total Chromium - Cr	< 5 ppm
f) Copper - Cu	< 20 ppm (500 ppm CID II)
g) Mercury - Hg	< 0.2 ppm
h) Nickel - Ni	< 20 ppm (500 ppm CID II)
I) Lead - Pb	< 5 ppm
J) Selenium - Se	< 1 ppm
k) Zinc - Zn	< 50 ppm (1000 ppm CID II)

Figure 4. Waste Management Disposal Guidelines

Significance of Tests
All three samples would probably be acceptable at the Settler's Fill landfill, according to Waste Management's guideline criteria, which are included as Figure 4.

It is perilous to predict the possible rulings of regulatory agencies. However, a similar site in Illinois, without industrial waste, was required by the Pollution Control Board to install four groundwater monitoring wells, collect quarterly samples, and install a two foot thick clay cap with vegetative cover. A similar response could be anticipated for the O'Hara Site.

Extent of Site
Our field reconnaissance indicates the following limits of dumping at the O'Hara site: Mrs Sinclair's Cemetery, the channel of Seventh Avenue Creek, the steep slope about 100 feet north of Fern Avenue, and the right of way of Seventh Avenue. These limits are shown on Figure 3.

This estimate is based on surficial observations and conversations only. Soil borings would be required to confirm the site limits.

Standard of Care
The findings and conclusions contained in this report represent our professional opinions. These opinions were arrived at in accordance with an agreed upon Scope of Work, and with currently accepted engineering practices at this time and location. No warranty is expressed or implied.

Thank you for the opportunity to serve the City of St. Charles. We remain at your disposal, to discuss this study and our observations.

Respectfully submitted,
ROBERT H. ANDERSON & ASSOCIATES, INC.

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